



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,467	07/09/2003	James H. Doty	02CR350/KE	9595

7590 01/30/2004

ROCKWELL COLLINS, INC.

Attention: Kyle Epele

M/S 124-323

400 Collins Rd. NE

Cedar Rapids, IA 52498

EXAMINER

PHAN, DAO LINDA

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/616,467

Applicant(s)

DOTY, JAMES H.

Examiner

Dao L. Phan

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Casabona et al (US 2004/0012526).

Casabona et al teach an interference-aided signal acquisition and tracking system including a vehicle having at least two receivers 15, 20 configured to detect external signals, the at least two receivers having an output dependent on attitude of the vehicle, an interference detector 115 that measures the output of at least one of the at least two receivers, a noise canceller 100 that combines the output of the at least two receivers, and a signal processor 134, 30 that extracts a desired signal from the output of the noise canceller.

With regard to claims 9-13, Casabona et al teach a method of signal acquisition and tracking including receiving 15, 20 external signals at a spinning vehicle, measuring 35 the received external signals, modulating 100 the received external signals to null an interference signal, and extracting 134 a desired signal from the combined external signal.

With regard to claims 14-20, Casabona et al teach a signal acquisition and tracking system including a number of signal receivers 15, 20 associated with a spinning vehicle, a rotation tracker 25 that obtains signals from the number of signal receivers and provide a rotation estimate, a global positioning system (GPS) processor 30 that provides satellite geometry information, and an interference cancellation controller 110, 100 that obtains the rotation estimate and the satellite geometry information and modulates to null interference received by the number of signal receivers.

3. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Casabona et al (Pat. No. 5,712,641).

Casabona et al teach an interference-aided signal acquisition and tracking system including a vehicle having at least two receivers 25 configured to detect external signals, the at least two receivers having an output dependent on attitude of the vehicle, an interference detector 15 that measures the output of at least one of the at least two receivers, a noise canceller (fig. 2f) that combines the output of the at least two receivers, and a signal processor 15 that extracts a desired signal from the output of the noise canceller.

With regard to claims 9-13, Casabona et al teach a method of signal acquisition and tracking including receiving 25 external signals at a spinning vehicle, measuring 15 the received external signals, modulating 35 the received external signals to null an interference signal, and extracting (fig. 3, DESIRED SIGNAL TO GPS RECEIVER) a desired signal from the combined external signal.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao L. Phan whose telephone number is (703)306-4167. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarcza Thomas can be reached on (703)306-4171. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1113.